

Application:

- Industrial or Commercial
 - o Peak shaving
 - o UPS
 - o Backup power
- Continuous Site Loads up to 200 kW possible
- Peaks up to 1000 kW
- There is NO MINIMUM LOAD

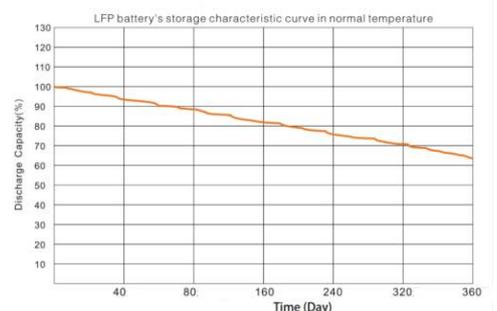
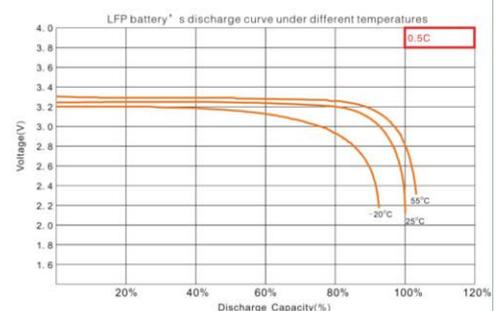
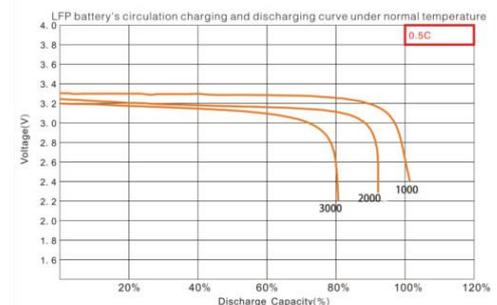
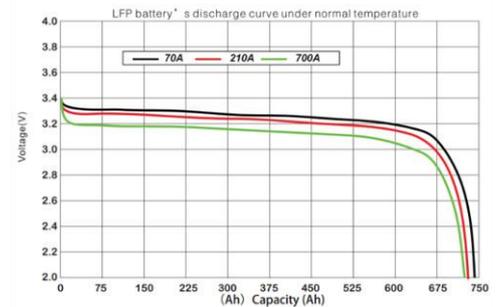
High Security Enclosure:

- 6000 x 2400 x 2400 (l x w x h)
- 'Corten' steel panels
- Structural steel 3–6mm thickness
- Painted finish
 - 3 x primer, top coat
 - Total film thickness 160 microns
 - Minimum gloss level 80%
- Two separate equipment compartments, engine compartment and battery compartment
- Engine Compartment:
 - Forced ventilation
 - Acoustic insulation 65 dB @ 1m
 - 2,000 litre bunded fuel tank
 - Remote radiator
- Electrical Compartment:
 - 2 doors
 - Sealed and insulated
 - Universal battery mounting system
- Temperature controlled
- External lockable fuel fill point
- Fork lift pockets
- Low power LED internal and external lighting*

Battery:

- Lithium Ion
- Advanced rare earth chemistry
- Light weight and compact
- Low maintenance, sealed for life construction
- Up to 300 kW/hr capacity
- 400V DC
- Very high charge and discharge capability

Charge & Discharge Chart:



Engine:

- 2 x Perkins 1100 series engines
- EPA Tier3 compliant
- 4 stroke compression ignition
- Diesel Fuel
- 6 cylinder in-line, OHV
- Liquid cooled
- 6.6 litre displacement
- Low fuel consumption



Alternator:

- Permanent Magnet type
- Operating speed 2,200 – 2,800 RPM
- Rated power up to 200kW available
- Thermal protection
- Overcurrent protection
- Overspeed protection
- Simple construction; 1 moving part, no bearings or sliding contacts



Inverter:

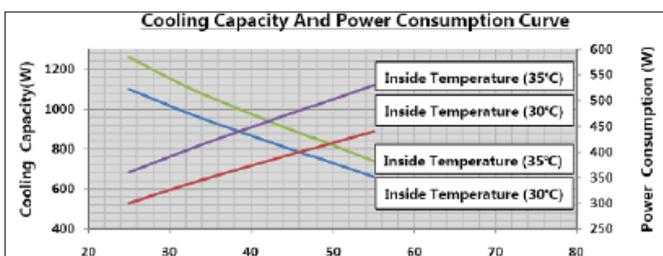
- Single or 3 phase
- 230/400 V AC, 50/60 Hz or other to suit site load
- State Solid pure sin wave technology
- Built in EMC filter
- Overload protection
- Motor drive or island mode inverter
 - o Motor soft start function
 - o High Torque capability
 - o Energy recovery
- Advanced thermal modal allows high overloadability (150%)

Battery Management System*:

- Up to 180 cells
- 900 V max
- Cell balancing to within 10 mV
- Charge and discharge enable supervision and control
- State of charge, health, current, temperature, cell resistance monitoring
- Multiple strings of cells in parallel for battery redundancy*

Air Conditioning*:

- Free air cooling unit, Thermosyphon
- DC air conditioner
- Hybrid free air cooling / DC air conditioner
- R134a Refrigerant
- Quiet (65 dB @ 1.5m)
- Variable speed compressor and fans
- Microchannel heat exchangers
- High efficiency



Control System:

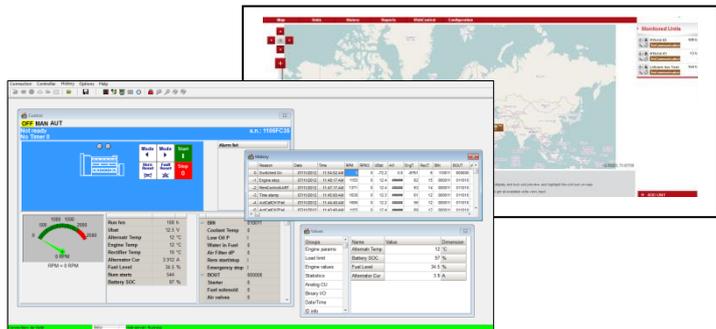
- Microprocessor controlled
- Fully automatic, autonomous operation
- Remote monitoring, diagnosis and control
- Historical data trending
- Monitors and controls all major operating parameters of the HYbrid system
- Expandable to monitor clients equipment or relay signals to client's system*



Due to HYbrid Energy's policy of continuous improvement, these specifications are subject to change without notice *Indicates optional equipment

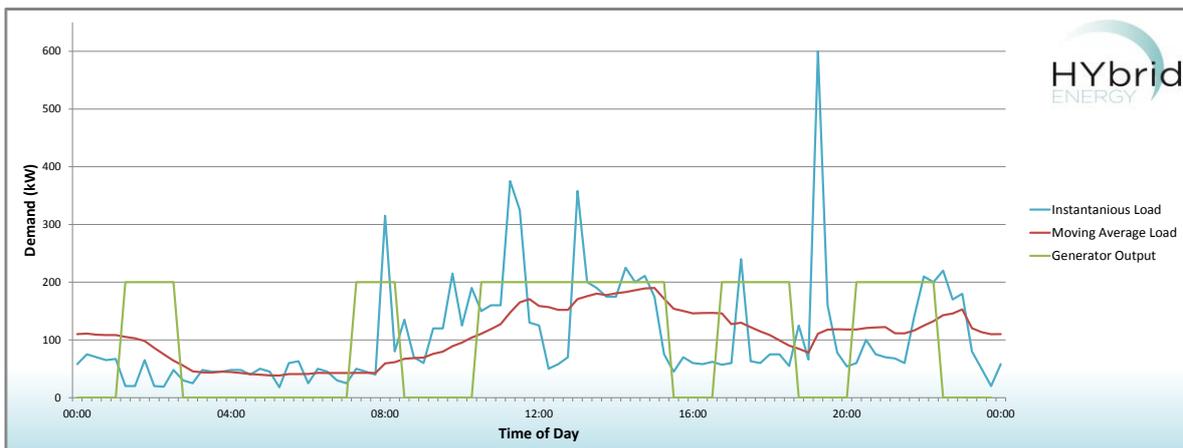
Remote Monitoring:

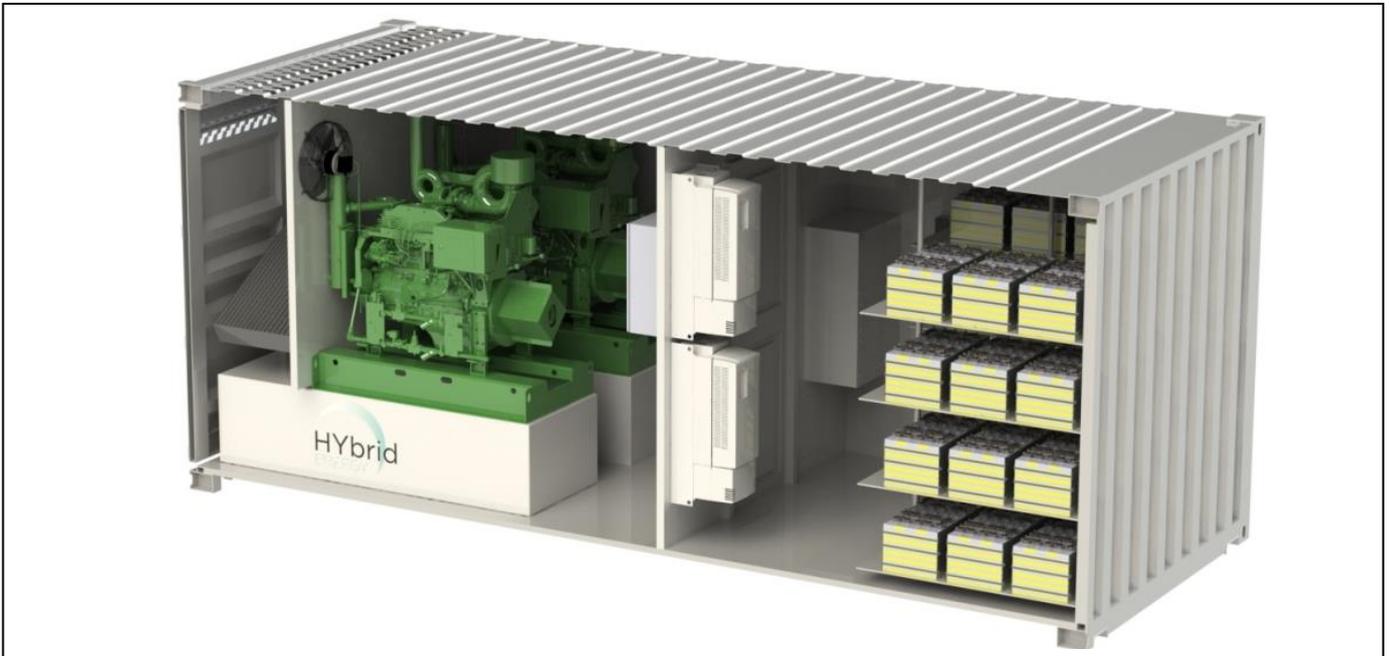
- On-board GPRS modem
- Full remote control and monitoring
- SMS alerts
- Web based interface
- Historical data recording
- Alarm list and fault reset
- Fleet status at-a-glance



Application: Industrial or Commercial Power Supply:

- Peak shaving reduces standing and variable energy charges; maximum import capacity requirement is reduced.
- Battery supplies peak loads from stored energy
- Power imported or generated is limited to average load
- Batteries charged at reduced current over longer time from mains when available
- Generators cycle charge the storage batteries during mains failure
- Redundant generators ensure uninterrupted power supply





System System	Feature	Benefit
Fuel	2,000 litre tank	-Extended intervals between refuelling -38 hours of engine run time between fills. Typically this equates to 3 days operation, depending on load.
	Fuel purifier	-Removes large particles and water from fuel supply before engine fuel system
	Secondary Racor turbine filter*	-Increases fuel filter life where there is heavy fuel contamination
	Water in fuel sensor*	-Shuts down engine safely if fuel is contaminated with water
Lube oil	Lockable fuel filler	-Reduces fuel theft
	Bypass oil filter with evaporation chamber	-Removes contaminants and acidic by-products of combustion, Increases oil life. Ideal for areas with poor fuel quality. -Service interval up to 1,000 hours
Electrical System	1000 kW rating	-Peak loads of 1000 kW possible
	Inverter	-Site AC loads can be supplied as well as DC
Alternator Enclosure	Solar Array*	-Increase fuel efficiency by using solar energy to charge the battery pack and power the site load during the day
	100 kW rating PMG	-Robust, simple and reliable. High efficiency
	All steel construction	-Secure and vandal resistant
	Forklift pockets, twist locks	-Easy to handle
	High quality paint finish	-Life expectancy >15 years in tough environments
Controls	Good access, lighting*	-Reduced maintenance cost
	Separate electrical and engine compartments	-Different operating environments to suit the equipment therein
	GPRS communication	-Web based remote monitoring -Remote fault diagnosis and repair -Increased availability
Battery	Flexible	-Configurable to client's requirements*
	Protection functions	-Monitors HES performance and protects the equipment from damage in the case of a malfunction
Battery	Lithium Ion*	-Increased fuel efficiency -Longer life -Maintenance free -Reduced OpEx